Remarks

I. Introduction

In the Office Action mailed November 20, 2009, the Examiner (1) rejected claims 21-23, 26, 28-29, 34-38, and 40 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement, and (2) rejected claims 21-40 under 35 U.S.C. § 103 as being allegedly unpatentable over U.S. Patent No. 7,082,107 ("Arvelo") in view of U.S. Patent Application Publication No. 2006/0182030 ("Harris"). Applicant has reviewed the cited art, amended the claims, and consequently requests favorable reconsideration in view of the following remarks.

II. Status of the Claims

Claims 21, 25-28, and 31-42 are pending. Of these claims, claims 21, 26, 36, 37, 40, and 43 are independent. Applicant has amended claims 21, 25-28, 36-38, and 40 in order to expedite allowance. Applicant has also added new claims 41-43. Applicant submits that new claims 41-43 do not disclose new matter and are fully supported by the Specification.

III. Response to the Rejection of Claims under 35 U.S.C. § 112, first paragraph

As noted, the Examiner rejected claims 21-23, 26, 28-29, 34-38, and 40 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

A. Independent Claims 21, 26, 36, 37, and 40

Regarding independent claims 21, 26, 36, 37, and 40, the Examiner stated there was no support in the Specification for the features of ""transmitting the plurality of packets at a third output power, wherein the third output power is less than the second output power; determining a third error rate associated with the transmission at the third output power and determining

whether the second output power is a desired output power based at least in part on a comparison between the first error rate and the second error rate and a comparison between the second error rate and the third error rate." Office Action at 2.

According to the Examiner, the Specification only discloses comparing the first and second error rates "to the PER at nominal power as determined in step 104 (paragraph 0021, No.: 2005/0180359)." Office Action at 3. Further, the Examiner argued that the Specification discloses that a third bit error rate "is compared to nominal power (step 118) but only after an increase of output power that is above nominal which appears to be above that of the previous new PER," but that the "[i]ndependent claims require the comparison after a decrease." *Id.*

Applicant respectfully submits that the Specification supports claim 21. As amended, claim 1 recites determining that a first error rate associated with a transmission of a plurality of packets at a first output power exceeds a threshold error rate, responsively transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power; determining a second error rate associated with the transmission at the second output power. The Examiner has not taken issue with support for these steps. However, *see* Specification at [0016]-[0019] and Figure 1 for support. Claim 21 further recites, responsive to determining that the second error rate is less than the first error rate, dithering the output power for the transmitter below the first output power until a target error rate is achieved. *See e.g.,* Specification at [0021], steps 112, 120 of Figure 1.

Applicant has canceled the remaining features of previously presented claim 21, and included similar features in new claim 41. In particular, claim 41 recites, , responsive to determining that the second error rate is greater than the first error rate: transmitting the plurality of packets at a third output power, wherein the third output power is *greater* than the second

output power, and determining a third error rate associated with the transmission at the third output power. *See e.g.,* Specification at [0022]-[0023], steps 114, 116 of Figure 1. This step has been amended to recite that the third output power is *greater* than the first output power (e.g., the nominal output power), which the Examiner admitted to be disclosed. *See* Office Action at 3. Claim 41 then recites, if the third error rate is less than the first error rate, then dithering the output power for the transmitter above the first output power until a target error rate is achieved. *See e.g.,* Specification at [0024], steps 116, 118, 120 of Figure 1. If the third error rate is greater than the first error rate, claim 1 recites restoring the first output power as the output power for the transmitter. *See e.g.,* Specification at [0024], steps 122 of Figure 1 (restoring the output power to the nominal value).

Further, Applicant submits that the Specification fully supports claim 26. In particular, claim 26 recites transmitting a plurality of packets at a first output power; determining a first error rate associated with the transmission of the plurality of packets at the first output power; comparing the first error rate to a predetermined error rate value; and responsive to determining that the first error rate is greater than the predetermined error rate value: transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power and determining a second error rate associated with the transmission at the second output power. The Examiner has not taken issue with support for these steps. However, *see* Specification at [0016]-[0019] and Figure 1 for support.

Claim 26 further recites, responsive to determining that the first error rate is greater than the predetermined error rate value: transmitting the plurality of packets at a third output power, wherein the third output power is *greater* than the second output power and determining a third error rate associated with the transmission at the third output power. *See e.g.,* Specification at

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[0022]-[0023], steps 114, 116 of Figure 1. Further, claim 26 recites, based at least in part on a comparison between the first error rate, the second error rate, and the third error rate, setting the output power for the transmitter.

Applicant notes that (a) these steps involving a third output power and third error rate need not be responsive to determining the second error rate is greater than the first error rate and (b) that the Specification does support a comparison of all three error rates. In particular, the Specification discloses that a "transmission may be attempted at a number of different output powers, from which a power setting that corresponds to the lowest error rate may be selected." Specification at [0027]. Through at least this recitation, it is apparent to those skilled in that art that, for example, the step of transmitting at a second output power below a nominal power and the step of transmitting at a third output power greater than the nominal output power, may both be performed without first requiring a comparison of the second error rate to the error rate at the nominal output power. Instead, the second error rate and the third error rate (corresponding to the second and third output power, respectively) may both be determined, and the output power for the transmitter may be set to the output power corresponding to the lowest of these error rates (or possibly set to the nominal output power, if the corresponding error rate is lower than the second and third error rates). *Id.*

Regarding independent claims 36, 37, and 40, Applicant submits that support for these claims is found in at least the same sections of the Specification cited in support of claims 21 and 26. Further, Applicant notes that support for new claim 42 is also found in at least the same sections of the Specification cited in support of claims 21 and 26.

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B. Dependent Claims 22-23. 28-29, 34-35, 38

Regarding dependent claim 28, Applicant has amended to recite that the step of setting the output power for the transmitter comprises, if the third error rate is less than the first error rate and the second error rate, then adjusting the third output power until a desired error rate is reached. Applicant respectfully directs the Examiner to the Specification at [0027], and to Applicant's comments above regarding claim 26, for support.

Regarding dependent claims 34-35, Applicant submits that support for the various transmissions being associated a variable data rate is at the least found in the Specification at [0016] ("As with most packet-based systems, the transmission data rates may be varied.").

Regarding dependent claims 38, Applicant respectfully directs the Examiner to the Specification at [0027], and to Applicant's comments above regarding claim 26, for support.

Regarding dependent claims 22-23 and 29, while Applicant does not acquiesce to the rejection, Applicant has cancelled these claims, thus rendering the rejections of these claims moot.

In view of the foregoing, Applicant has demonstrated support in the Specification for claims 21, 26, 28, 34-38, and 40. Therefore, Applicant submits that these claims meet the enablement requirement. Accordingly, Applicant requests that § 112, first paragraph, rejection be withdrawn.

IV. Response to the Rejection of Claims under 35 U.S.C. § 103

While Applicant recognizes that the Examiner has not had the opportunity to evaluate the pending claims in their currently amended form, Applicant nonetheless respectfully submits that each of the claims is allowable over the cited references.

As noted, the Examiner rejected the previously presented claims 21-40 under 35 U.S.C. § 103 as being allegedly unpatentable over U.S. Patent No. 7,082,107 ("Arvelo") in view of U.S. Patent Publication No. 2006/0182030 ("Harris"). Applicant respectfully submits that the cited references cannot form the basis for a *prima facie* case of obviousness for any of amended independent claims because the combination of the limited teachings of the cited references fails to establish rational underpinnings supporting a conclusion that the pending claims were obvious at the time of invention. (*See* M.P.E.P. § 2142). In particular, the combination of the cited references fails to teach or suggest the features that involve *decreasing* transmit power responsive to determining that the error rate is *greater* than a threshold error rate.

Applicant notes that the Examiner does not appear to have considered the previous claim amendments, which involved *decreasing* transmit power in an effort to reduce the bit error rate. For example, Applicant previously amended claim 21 to recite "transmitting the plurality of packets at a second output power, wherein *the second output power is less than the first output power*." Despite this amendment, the Examiner argued that Arvelo disclosed "transmitting the plurality of packets at least one second output power *different from* the first output power." Office Action at 9. Here and elsewhere, the Examiner referenced a previously presented version of the claims, which did not include the feature that the second output power is *less than* the first output power, a feature upon which Applicant relied was one of the bases for Applicant's argument. Since the Examiner did not address each and every element in the previously presented claims, and instead addressed a previous version of the claims, the Examiner has failed to establish a *prima facie* case of obviousness.

Furthermore, as amended, claim 21 recites "determining that a first error rate associated with a transmission of a plurality of packets at a first output power exceeds a threshold error

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rate" and "responsively transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power." Therefore, the Examiner's citations in support of the 103 rejection are equally lacking in regard to currently amended 21.

Independent claims 26, 36, 37, 40, and 43 recite similar language.

Furthermore, Applicants submit that the combination of Arvelo and Harris does not reasonably or logically lead to method recited in claim 21, which involves *decreasing* output power in an attempt to *decrease* the error rate. Arvelo teaches decreasing the transmission power only if the observed errors in a transmission are below a threshold, which addresses situations where the signal quality is "higher than desired" and transmission power can be decreased while maintaining a baseline level of performance. (*See* Arevelo, Fig. 1; col. 2, line 65 – col. 4, line 31). As such, Arvelo seeks to *increase* an error rate by *decreasing* the transmission power.

Harris similarly fails to teach or suggest claim 21. In Harris, a lower transmission power level is set when a transmission infrastructure switches to tolerate a higher error rate in transmission. As with Arvelo, the lower transmission power in Harris corresponds with a higher error rate, rather than a lower error rate. (*See* Harris, para. 0055). Thus, Harris does not recognize that a lower error rate could be determined when the transmission power is decreased. Since both Arvelo and Harris are focused on increasing a transmission error rate with by decreasing the transmission power, the combination of the references fails to lead to claim 21.

Furthermore, Applicant submits that independent claims 26, 36, 37, 40 and 43 are non-obvious in view of Arvelo and Harris for similar reasons as claim 21 is non-obvious. In particular, claim 26 recites "transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power," and "determining a second error rate associated with the transmission at the second output power." Claim 36 recites "a

processor configured to ... responsive to determining the first error rate is greater than the predetermined error rate, cause the transmitter to transmit the plurality of packets at a second output power, wherein the second output power is less than the first output power." Claim 37 recites a "means for transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power." Claim 40 recites 43 recites that the "instructions, when executed, cause the computer to perform operations comprising ... transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power. And lastly, claim 43 recites "responsively transmitting the plurality of packets at a second output power, wherein the second output power is less than the first output power."

For at least the foregoing reasons, Applicant respectfully submits that independent claims 21, 26, 36, 37, 40, and 43 are non-obvious and allowable over the combination of Arvelo and Harris. In addition, and without conceding any of the Examiner's other statements, Applicant respectfully submits that claims 25, 27-28, 31-35, 38-39, and 41-42 are allowable for at least the reason that each of these claims ultimately depends from an allowable base claim.

V. Conclusion

Applicants respectfully submit that all of the claims are patentable over the cited art and requests notice to this effect. The Examiner is invited to call the undersigned at (312) 913-3341 with any questions or comments.

Respectfully submitted,

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